



STATE OF RHODE ISLAND

ENERGY EFFICIENCY & RESOURCE MANAGEMENT COUNCIL

2020 Energy Efficiency Plan EERMC Consultant Team Review

EERMC Council Meeting October 3, 2019



Outline

- Energy Efficiency (EE) Plan Review/Analysis Process
- Changes from 1st Draft through 4th Draft of the EE Plan
 - Electric and Gas
 - Savings, Budgets, and System Benefit Charge
- 2020 EE Plan Highlights
- Cost-Effectiveness Report Summary
- Summary and Recommendations





EE Plan Review Process Overview

Step 1: Consultant team (C-team) reviews Benefit-Cost (BC) Models

- Cross-reference BC Models with Evaluations and Technical Reference Manual (TRM)
- Cross-reference previous year and 3-year plan
- Cross-reference BC Models with narrative in the EE Plan

Step 2: C-team and other stakeholders undertake detailed review of Plan and provide written questions and comments to the Company

- Collectively, ~2000 comments provided on 2020 Plan drafts

Step 3: C-team, OER and the Company iteratively review feedback

- Conduct calls and exchange emails to review and handle individual comments

This process was supplemented by Council Member 1-on-1 meetings, as well as ongoing discussions among the C-Team, OER, the Division, and the Company on key plan features

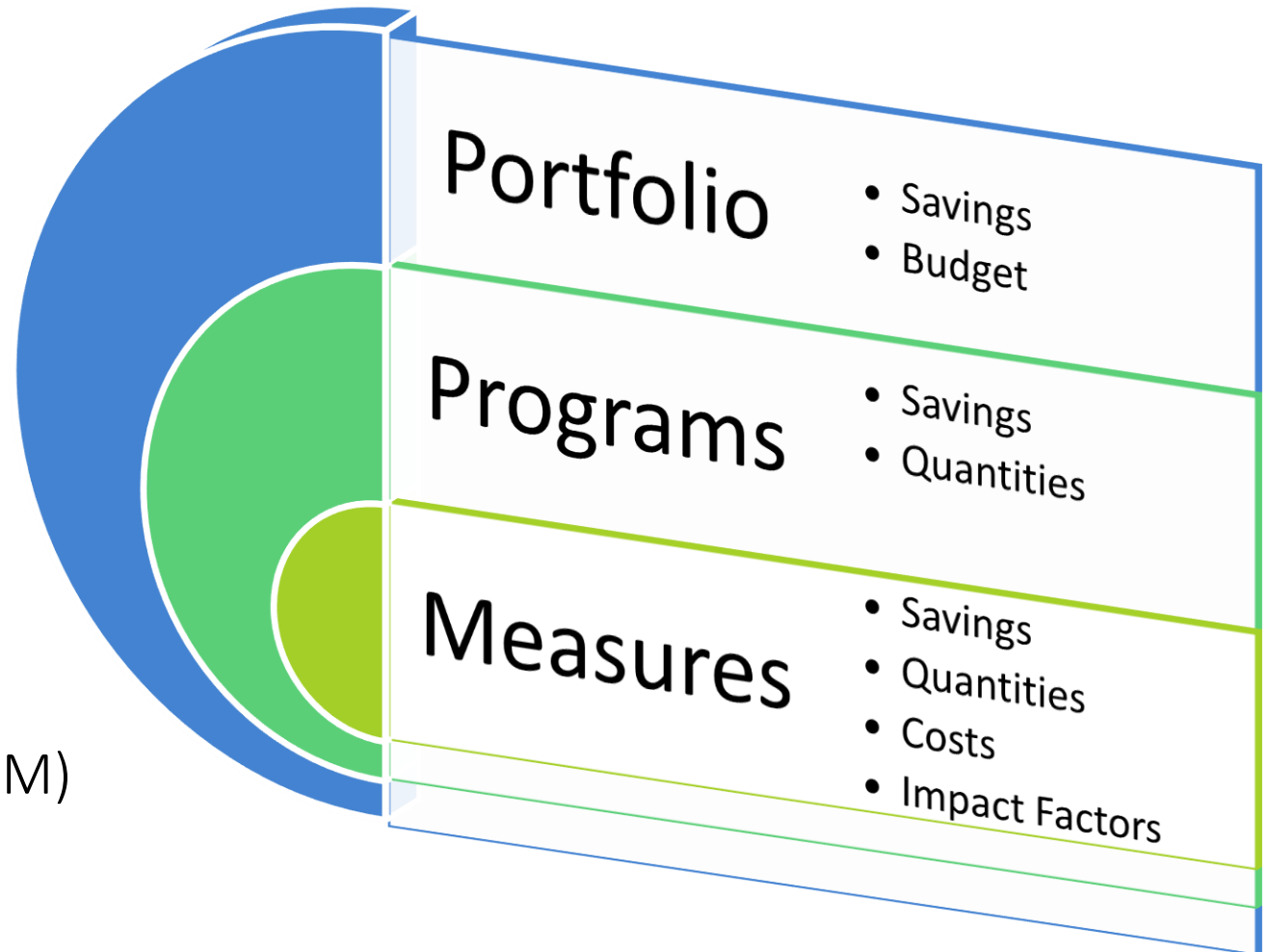




BC Models Review Details

BC Models Levels of Review

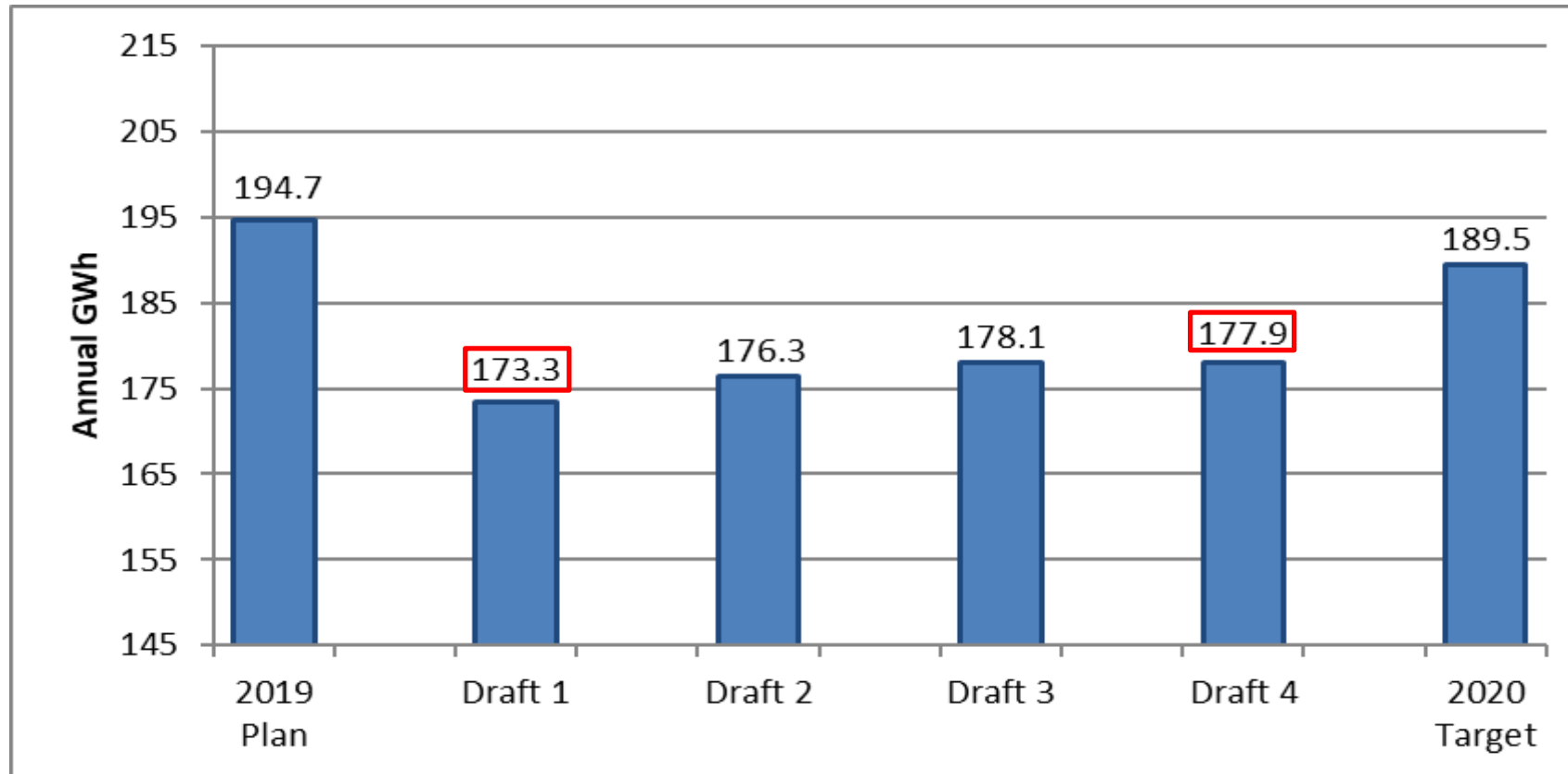
- Quality Assurance
- Technical Expertise
- Cross-referencing
 - 3-year plan
 - 2019 Plan BC Model
 - EE Plan Narrative
 - Technical Reference Manual (TRM)
 - Evaluation Results





2020 Planned Electric Savings

Electric Savings (Annual GWh)

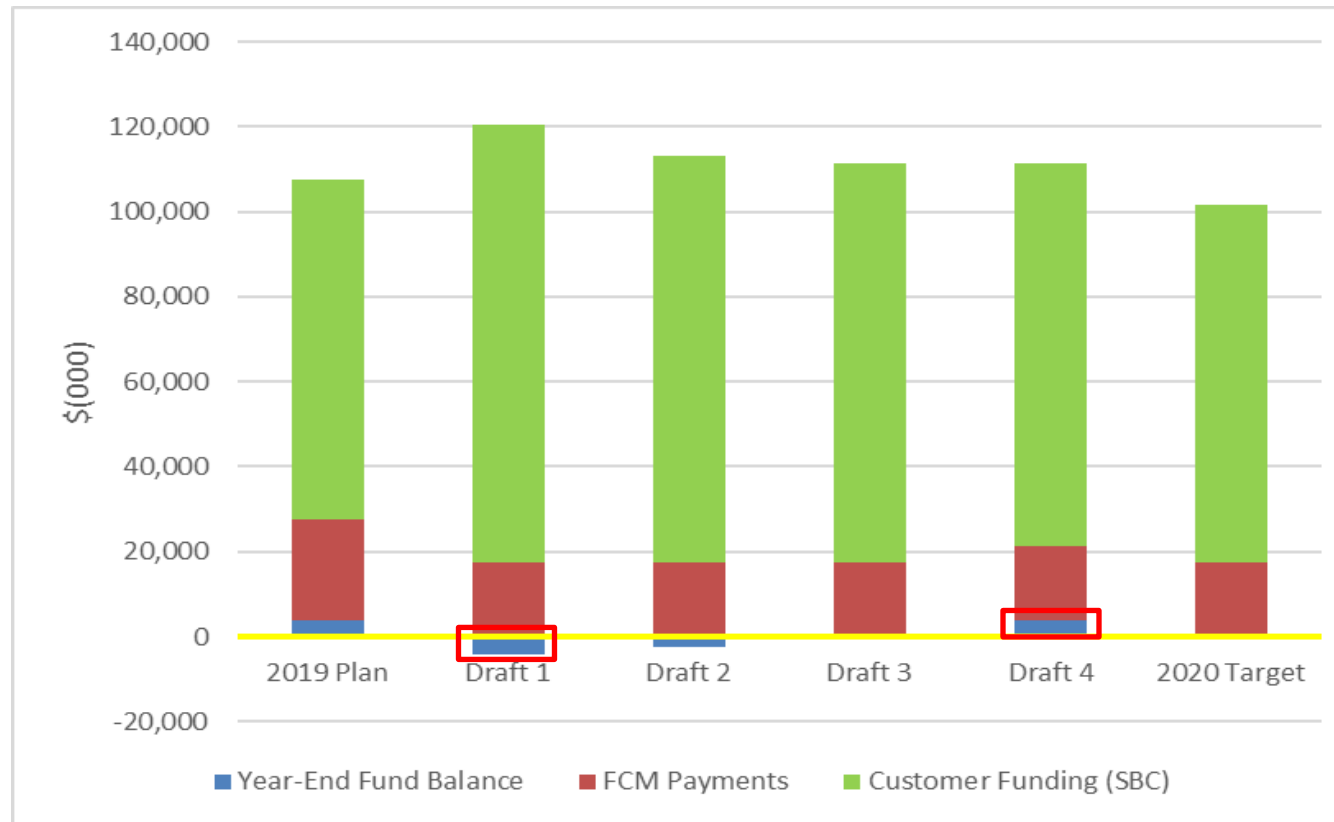


Planned annual electric savings have increased by 4.6 GWh from 1st draft to 4th draft



Electric Fund Balance Shifts

Electric Funding Components

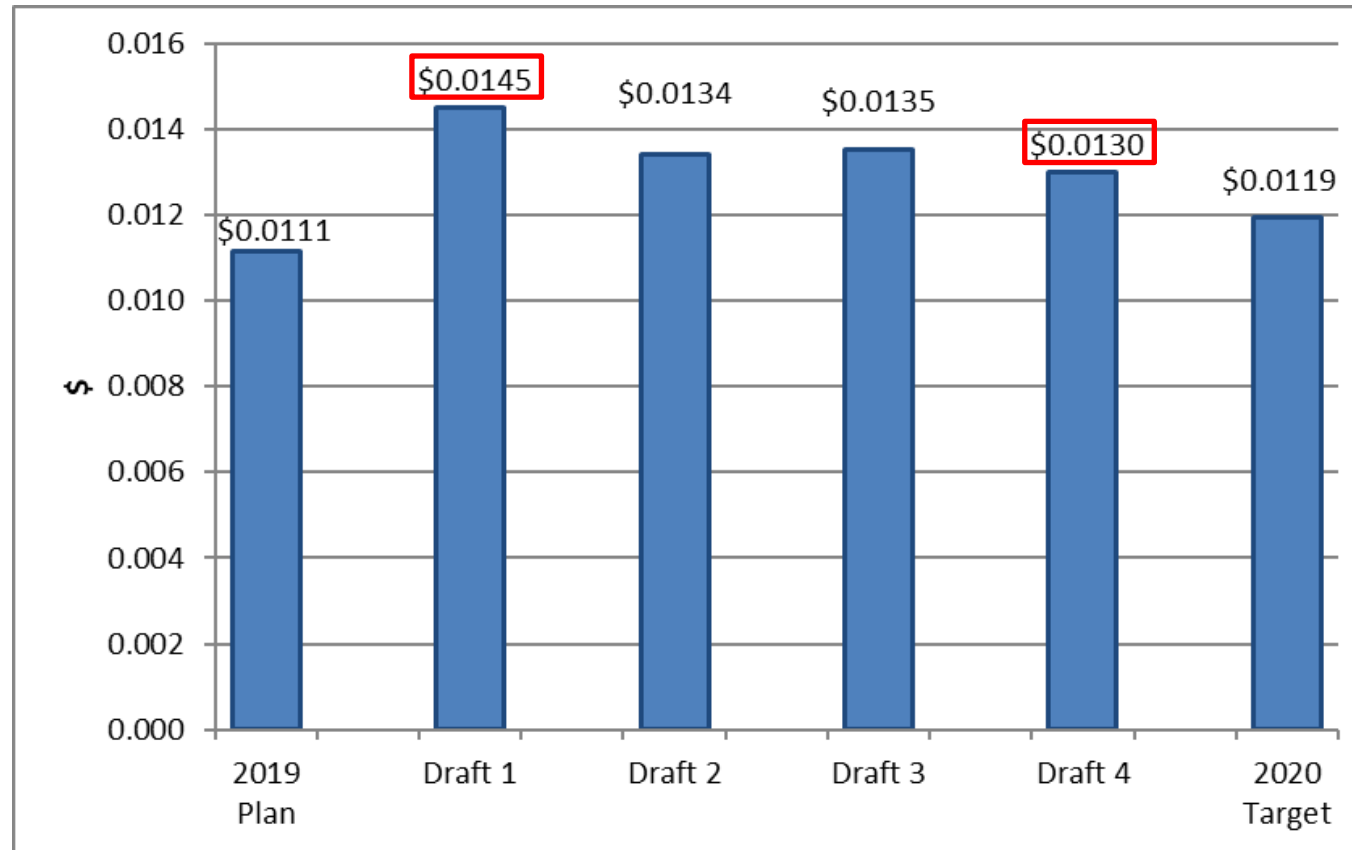


- Year-end fund balance shifted from -\$6.1MM to +\$3.7MM from 1st to 4th draft
- Electric budget declined by \$13MM (10.7%)



Electric System Benefit Charge

Electric System Benefit Charge (SBC)

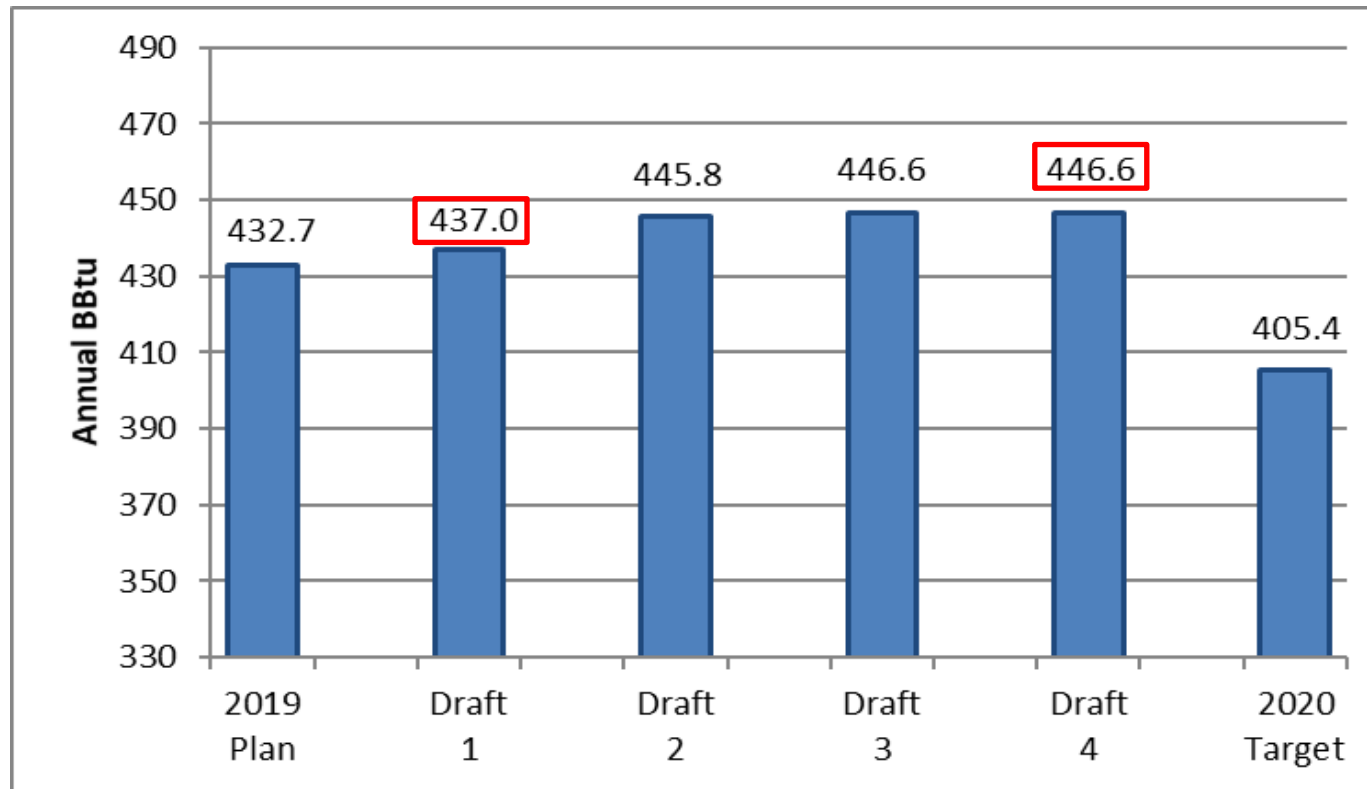


Electric SBC decreased \$0.0015 (10%) from 1st draft to 4th draft



2020 Planned Gas Savings

Gas Savings (Annual BBtu)

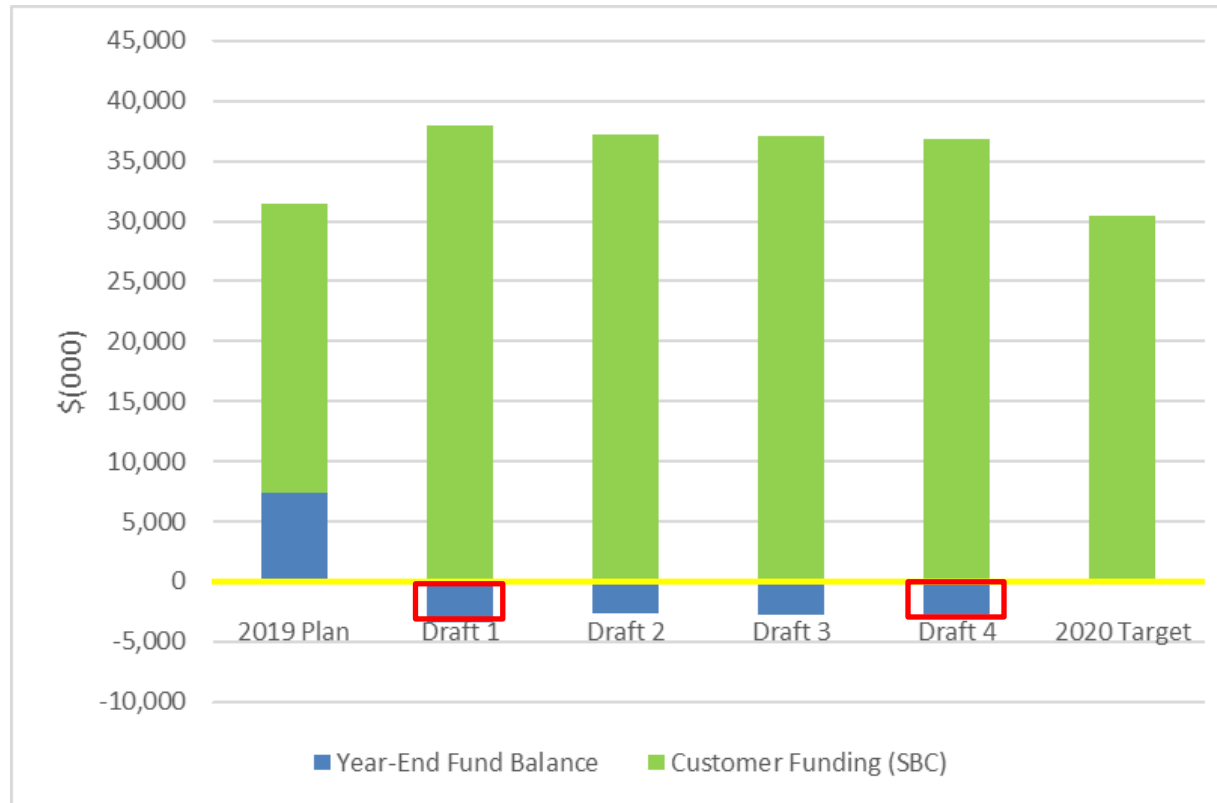


Planned annual gas savings have increased by 9.6 BBtu from 1st draft to 4th draft



Gas Fund Balance Shifts

Gas Funding Components

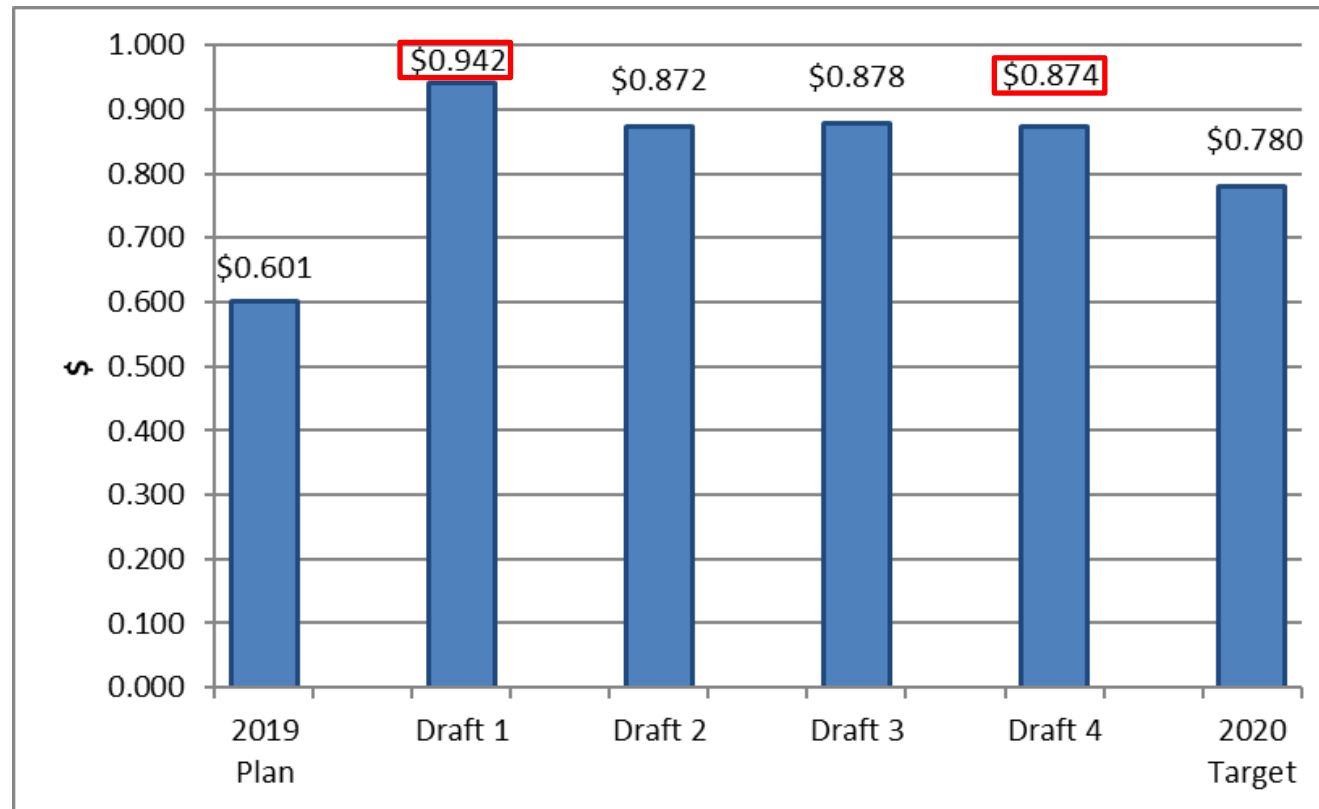


- Year-end fund balance shifted from -\$3.4MM to -\$2.7MM from 1st to 4th draft
- Gas budget declined by \$1.1MM (3.0%)



Gas System Benefit Charge

Gas System Benefit Charge (SBC)



Gas SBC decreased \$0.068 (7%) from 1st draft to 4th draft



2020 Plan Highlights

- Annual vs. Lifetime targets
- MMBtu metric for all fuels
- Cost-efficiency, budget, and SBCs
- Performance Incentive Metrics (PIMs)
- Improved narrative structure
- Increased data transparency





2020 Sector Highlights

Residential Highlights

- More focus on electric heating in RI
- Income Eligible services and programs updated using recent process evaluation
- Multi-Family program to be reviewed in 2020, including impact and process evaluation

C&I Highlights

- Energy/Lighting as a Service as a pilot or demonstration
- Continue to work with promising SEM candidates outside current cohort
- Energy storage demand response Initiative should include thermal storage





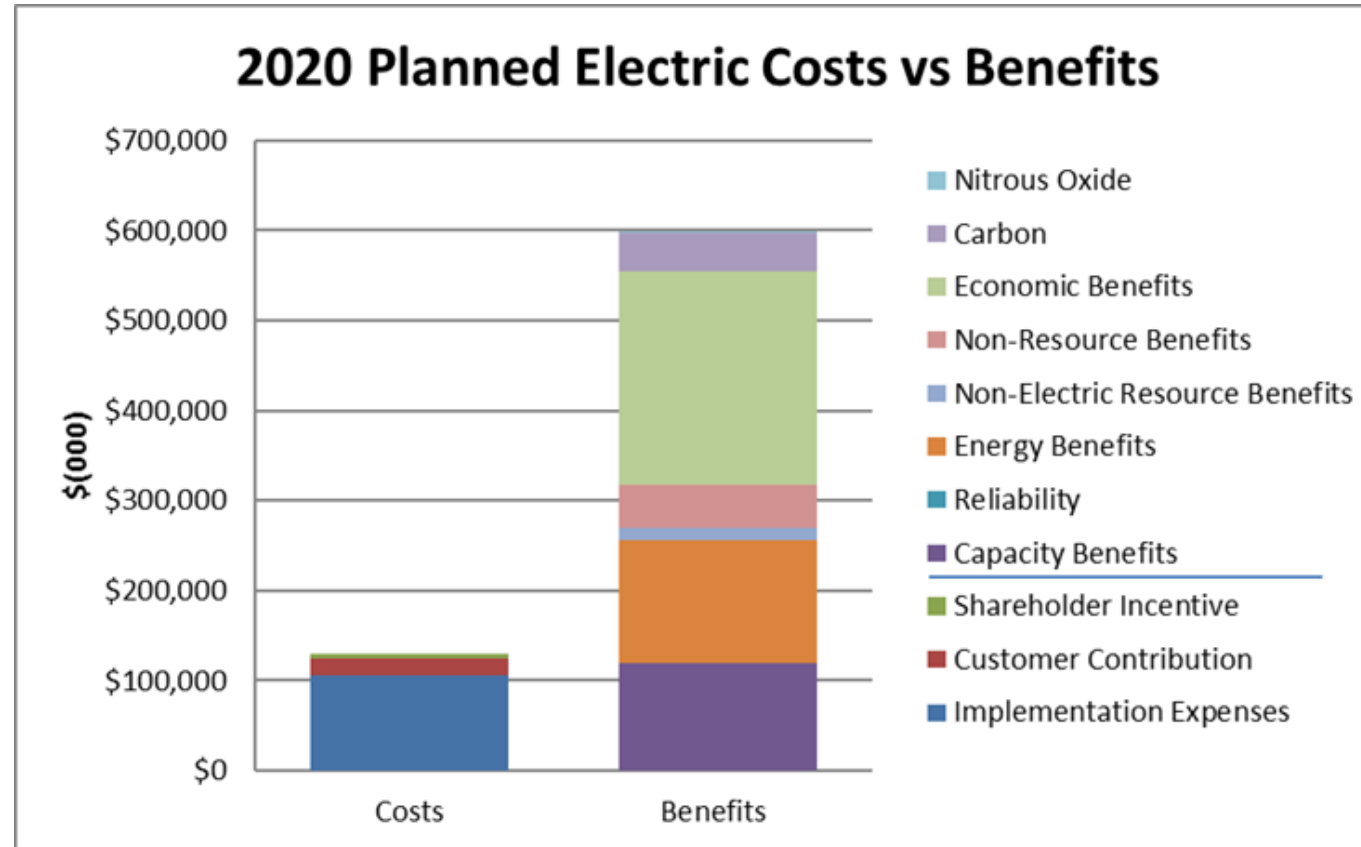
2020 Plan Compliance Overview

- Full compliance with Least-Cost Procurement and Standards

Requirements	
The Plan helps to meet RI's electrical and natural gas needs in a manner that is optimally <u>cost-effective, reliable, prudent, and environmentally responsible</u>	✓
Complements RI's existing energy programs	✓
Drives program <u>Innovation</u>	✓
Is <u>Comprehensive</u> : ensures all customers have an opportunity to benefit	✓
Is designed to ensure <u>Equity</u> across sectors and customer types	✓



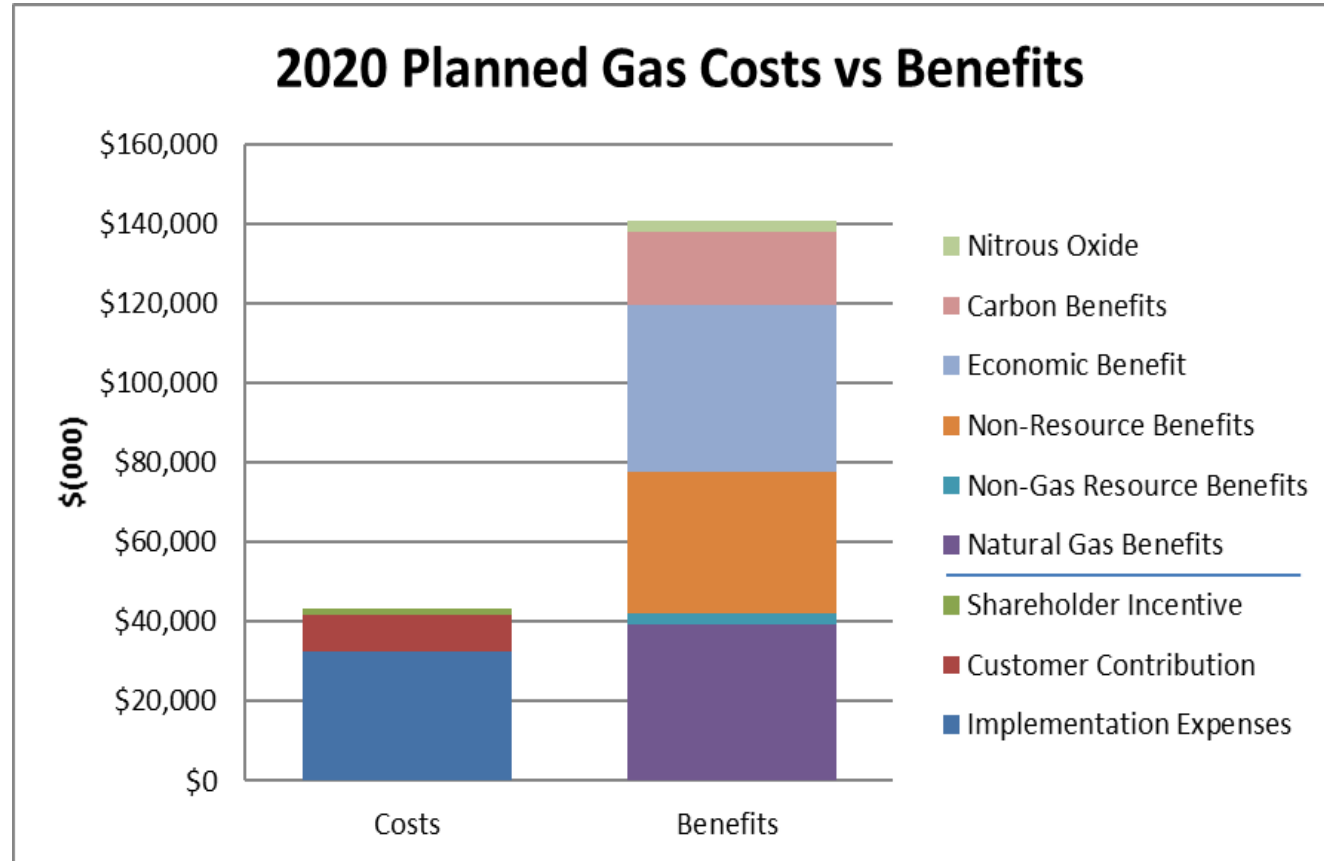
Cost-Effectiveness Report Summary



4th draft Plan Benefit-Cost Ratio (BCR) of 4.6 for electric



Cost-Effectiveness Report Summary



4th draft Plan Benefit-Cost Ratio (BCR) of 3.3 for gas



Summary & Recommendations

2020 Energy Efficiency Plan

- Substantial improvement between 1st and 4th EE Plan drafts
- Plan is cost-effective and below cost of supply

Today's Council Meeting

- Consultant Team recommends approval of 4th draft, pending any amendments from Councilors, and with budgets which do not exceed the 4th draft budgets
- Planning process improvements will carry into future years



APPENDICES





2020 Electric Program Level Savings

Electric Program-Level Savings (Annual MWh)

Program	Fourth Draft 2020 Plan	Compared to 2019 Plan		Compared to First Draft 2020 Plan		Compared to Second Draft 2020 Plan	
Small Business Direct Install	11,500	-663	-5%	697	6%	0	0%
Large Commercial New Construction	9,828	-1,035	-10%	425	5%	308	3%
Large Commercial Retrofit	72,871	-142	0%	1,755	2%	935	1%
C&I Total	94,199	-1,839	-2%	2,878	3%	1,244	1%
Single Family - Income Eligible Services	3,587	-155	-4%	244	7%	244	7%
Income Eligible Multifamily	2,392	-827	-26%	-59	-2%	0	0%
Income Eligible Total	5,979	-982	-14%	185	3%	245	4%
Residential New Construction	870	114	15%	-96	-10%	0	0%
ENERGY STAR HVAC	2,069	-641	-24%	783	61%	541	35%
EnergyWise	5,917	-2,265	-28%	-293	-5%	-293	-5%
EnergyWise Multifamily	2,793	-800	-22%	-150	-5%	-150	-5%
Home Energy Reports	23,239	-891	-4%	0	0%	0	0%
ENERGY STAR Lighting	38,093	-10,288	-21%	466	1%	0	0%
Residential Consumer Products	4,768	843	21%	834	21%	0	0%
Residential Total	77,749	-13,928	-15%	1,543	2%	98	0%
Portfolio Total	177,927	-16,750	-9%	4,605	3%	1,587	1%



2020 Electric Program-Level Spending

Electric Program-Level Spending (\$)

Program	Fourth Draft 2020 Plan	Compared to 2019 Plan		Compared to First Draft 2020 Plan		Compared to Second Draft 2020 Plan	
Small Business Direct Install	\$7,568,600	-\$1,144,200	-13%	\$233,888	3%	\$358,254	5%
Large Commercial New Construction	\$5,335,700	\$299,556	6%	\$80,443	2%	\$899	0%
Large Commercial Retrofit	\$23,801,300	\$2,444,777	11%	\$135,174	1%	-\$388,934	-2%
C&I Financing	\$5,216,700	\$216,700	4%	-\$1,783,300	-25%	\$216,700	4%
Community Based Initiatives - C&I	\$66,100	\$25,963	65%	\$23,150	54%	\$7	0%
Commercial Pilots	\$106,300	-\$91,630	-46%	\$31	0%	\$31	0%
Commercial ConnectedSolutions	\$2,078,500	\$54,366	3%	-\$250,455	-11%	\$56	0%
C&I Total	\$44,173,200	\$1,805,531	4%	-\$1,561,069	-3%	\$187,012	0%
Single Family - Income Eligible Services	\$12,846,100	\$1,151,372	10%	\$423,191	3%	\$435,621	4%
Income Eligible Multifamily	\$3,549,000	\$166,096	5%	-\$7,367	0%	-\$3,650	0%
Income Eligible Total	\$16,395,100	\$1,317,468	9%	\$415,824	3%	\$431,971	3%
Residential New Construction	\$973,500	\$114,868	13%	\$67,365	7%	\$433	0%
ENERGY STAR HVAC	\$2,783,200	\$59,242	2%	\$365,246	15%	\$177,867	7%
EnergyWise	\$15,692,200	-\$85,301	-1%	-\$657,581	-4%	-\$141,675	-1%
EnergyWise Multifamily	\$2,804,300	-\$260,572	-9%	-\$18,050	-1%	-\$15,333	-1%
Home Energy Reports	\$2,728,100	\$86,904	3%	-\$1,984	0%	\$1,241	0%
ENERGY STAR Lighting	\$15,375,800	\$407,577	3%	-\$1,018,659	-6%	\$238,534	2%
Residential Consumer Products	\$2,199,200	\$74,701	4%	\$126,531	6%	\$10,438	0%
Energy Efficiency Education	\$40,000	\$0	0%	\$0	0%	\$0	0%
Comprehensive Marketing - Residential	\$382,300	-\$174,247	-31%	-\$62,500	-14%	-\$62,500	-14%
Community Based Initiatives - Residential	\$203,900	\$82,388	68%	\$51,597	34%	\$16	0%
Residential ConnectedSolutions	\$461,600	\$178,490	63%	\$5,854	1%	\$6,257	1%
Residential Pilots	\$287,800	\$65,082	29%	-\$918	0%	-\$918	0%
Residential Total	\$43,931,900	\$549,131	1%	-\$1,143,100	-3%	\$214,359	0%
EERMC	\$893,700	-\$96,100	-10%	-\$107,421	-11%	-\$35,362	-4%
OER	\$893,700	\$110,100	14%	-\$107,421	-11%	-\$35,362	-4%
Regulatory Total	\$1,787,400	\$14,000	1%	-\$214,841	-11%	-\$70,724	-4%
Portfolio Total	\$104,500,200	\$3,672,130	4%	-\$2,288,346	-2%	\$833,343	1%



2020 Gas Program-Level Savings

Gas Program-Level Savings (Annual MMBtu)

Program	Fourth Draft 2020 Plan	Compared to 2019 Plan		Compared to First Draft 2020 Plan		Compared to Second Draft 2020 Plan	
Large Commercial New Construction	45,474	2,938	7%	2,668	6%	0	0%
Large Commercial Retrofit	163,011	7,962	5%	6,530	4%	283	0%
C&I Multifamily	11,155	326	3%	-48	0%	0	0%
C&I Small Business Direct Install	2,523	-36	-1%	0	0%	0	0%
C&I Total	222,163	11,189	5%	9,150	4%	282	0%
Single Family - Income Eligible Services	10,096	918	10%	459	5%	459	5%
Income Eligible Multifamily	24,413	3,926	19%	-40	0%	0	0%
Income Eligible Total	34,509	4,844	16%	419	1%	460	1%
ENERGY STAR HVAC	29,994	2,034	7%	-95	0%	0	0%
EnergyWise Single Family	25,621	-2,185	-8%	0	0%	0	0%
EnergyWise Multifamily	14,561	-1,482	-9%	-38	0%	0	0%
Home Energy Reports	115,426	-94	0%	0	0%	0	0%
Residential New Construction	4,346	-395	-8%	203	5%	76	2%
Residential Total	189,948	-2,121	-1%	70	0%	76	0%
Portfolio Total	446,620	13,912	3%	9,639	2%	818	0%



2020 Gas Program-Level Spending

Gas Program-Level Spending (\$)

Program	Fourth Draft 2020 Plan	Compared to 2019 Plan		Compared to First Draft 2020 Plan		Compared to Second Draft 2020 Plan	
Large Commercial New Construction	\$2,652,600	\$263,370	11%	\$130,936	5%	\$82,679	3%
Large Commercial Retrofit	\$4,889,100	\$675,136	16%	-\$179,664	-4%	-\$12,064	0%
C&I Multifamily	\$967,900	\$49,530	5%	\$17,515	2%	\$7,075	1%
C&I Small Business Direct Install	\$125,000	\$554	0%	\$540	0%	\$1,199	1%
Commercial Pilots	\$366,000	-\$15,126	-4%	-\$910,015	-71%	-\$910,015	-71%
Finance Costs	\$500,000	\$500,000	#DIV/0!	\$0	0%	\$0	0%
Community Based Initiatives - C&I	\$22,000	\$8,988	69%	\$8,050	58%	-\$31	0%
C&I Total	\$9,667,600	\$1,627,451	20%	-\$787,637	-8%	-\$686,156	-7%
Single Family - Income Eligible Services	\$5,952,300	\$939,458	19%	\$284,341	5%	\$287,396	5%
Income Eligible Multifamily	\$3,009,500	\$76,806	3%	\$19,799	1%	\$21,556	1%
Income Eligible Total	\$8,961,800	\$1,016,264	13%	\$304,140	4%	\$308,953	4%
ENERGY STAR HVAC	\$2,693,100	\$528,198	24%	\$595,947	28%	\$46,011	2%
EnergyWise Single Family	\$8,117,600	-\$348,654	-4%	-\$307,977	-4%	\$81,260	1%
EnergyWise Multifamily	\$1,512,100	-\$165,424	-10%	\$8,501	1%	\$9,364	1%
Home Energy Reports	\$471,500	\$23,597	5%	\$3,377	1%	\$3,678	1%
Residential New Construction	\$620,500	-\$117,135	-16%	-\$52,411	-8%	\$2,905	0%
Comprehensive Marketing - Residential	\$79,900	\$6,223	8%	\$12,498	19%	\$12,498	19%
Community Based Initiatives - Residential	\$68,900	\$29,946	77%	\$23,072	50%	-\$339	0%
Residential Total	\$13,577,900	-\$28,949	0%	\$297,306	2%	\$169,677	1%
EERMC	\$361,200	\$125,728	53%	-\$11,216	-3%	-\$11,811	-3%
OER	\$361,200	\$56,978	19%	-\$11,216	-3%	-\$11,811	-3%
Regulatory Total	\$724,800	\$185,106	34%	-\$20,033	-3%	-\$21,221	-3%
Portfolio Total	\$32,932,100	\$2,799,871	9%	-\$206,224	-1%	-\$228,748	-1%